

REMARKS

Claims 1-34 are pending in this application. By the Office Action, claims 5-34 are withdrawn from consideration; and claims 1-4 are rejected under 35 U.S.C. §103(a). By this Amendment, claim 1 is amended. Support for the amendments to claim 1 can be found, for example, in the specification and Figures as filed. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the Amendment places the application in condition for allowance (for the reasons discussed herein) or places the application into better form for Appeal should an Appeal be necessary. The Amendment does not present any additional claims without canceling a corresponding number of finally rejected claims, does not raise the issue of new matter, and does not raise any new issues requiring additional search and/or consideration since the Amendment is directed to subject matter previously considered during prosecution. Furthermore, the amendments are necessary and were not earlier presented because they are in response to issues raised in the Final Rejection. Applicants respectfully request entry of the Amendment.

I. **Restriction Requirement**

Claims 5-34 are withdrawn from consideration as subject to a combined Restriction and Election of Species Requirement. Applicants respectfully traverse the Requirements, for all of the reasons set forth in the previous response.

Applicants further understand, however, that rejoined of non-elected process claims will be required upon allowance of product claims where the process claim depends from or otherwise includes all the limitations of an allowed product claim. Applicants further understand that upon search, examination and allowance of the elected species, search and examination will continue as to the non-elected species within the scope of the generic claims.

II. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1-4 under 35 U.S.C. §103(a) over Fee in view of Chun-Jen, and further in view of Yagi. Applicants respectfully traverse the rejection.

Claim 1, as amended, is directed to a plastic package comprising: a plurality of terminal members each having an outer terminal having an upper surface, a lower surface and an outer side surface, an inner terminal having a contact surface, and a connecting part connecting the outer and the inner terminal; a semiconductor device provided with terminal pads connected to the contact surfaces of the inner terminals with bond wires; and a resin molding sealing the terminal members, the semiconductor device and the bond wires therein. Claim 1 further specifies that the inner terminals of the terminal members are thinner than the outer terminals and have the contact surfaces, the contact surfaces of the inner terminals, the upper surfaces of the outer terminals, the lower surfaces of the outer terminals of the terminal members are included in planes, respectively, and the upper, the lower and the outer side surfaces of the outer terminals of the terminal members, and a surface of the semiconductor device opposite the surface provided with the terminal pads are exposed outside, and the inner terminals, the bond wires, the semiconductor device and the resin molding are included in the thickness of the outer terminals, wherein the inner terminal is located closer to the semiconductor device than the outer terminal, and the inner terminal has a half-etched upper surface lower than the upper surface of the outer terminal so that the thickness of the inner terminal is thinner than that of the outer terminal, and the semiconductor device has a thickness thinner than that of the inner terminals, and each inner terminal is so constructed that the section of the inner terminal is tapered toward the inside. Such a plastic package semiconductor device is nowhere taught or suggested by the cited references.

The Office Action admits that Fee fails to disclose that the inner terminals of the terminal members are thinner than the outer terminals and have the contact surfaces, the

semiconductor device has a thickness thinner than that of the inner terminals, and each inner terminal is so constructed that the section of the inner terminal is tapered toward the inside. However, the Office Action argues that (1) Chun-Jen discloses terminal members as claimed, (2) Yagi discloses a semiconductor device that is thinner than the inner terminals, and each inner terminal is so constructed that the section of the inner terminal is tapered toward the inside, and (3) it would have been obvious to incorporate Chun-Jen's and Yagi's teachings into Fee in order to increase stability of the die and molding resin. Applicants disagree that the cited references would have rendered obvious the claimed invention.

According to claim 1, the claimed invention includes, *inter alia*, the following features:

- (1) the semiconductor device is provided with terminal pads connected to the contact surface of the inner terminals with bonding wires;
- (2) the semiconductor device has a thickness thinner than that of the inner terminals;
- (3) each inner terminal is so constructed that the section of the inner terminal is tapered toward the inside; and
- (4) the inner terminal is located closer to the semiconductor device than the outer terminal, and the inner terminal has a half-etched upper surface lower than the upper surface of the outer terminal so that the thickness of the inner terminal is thinner than that of the outer terminal.

As a result of these features, the claimed invention provides significant advantages to the plastic package that are not taught or suggested by the cited references.

As a result of a combination of the above features (1)-(4), the plastic package can be formed more easily. In particular, because the semiconductor device has a thickness thinner than that of the inner terminals, when the bonding wires are connected to the terminal pads of the semiconductor device, a space above the semiconductor device for connecting the bonding wires to the terminal pads of the semiconductor device can be larger. As a result, the bonding wires can be more easily and smoothly connected.

None of Fee, Chun-Jen, or Yagi, alone or in combination, teach or suggest these benefits, or the means to accomplish these benefits. None of the references teach that the semiconductor device has a thickness thinner than that of the inner terminals, and that each inner terminal is so connected that the section of the inner terminal is tapered toward the inside, as claimed. Moreover, none of the references teach or suggest that their different constructions could or should be modified so as to provide these features of the claimed invention.

Furthermore, with respect to feature (4) above, that the inner terminal is located closer to the semiconductor device than the outer terminal, and the inner terminal has a half-etched upper surface lower than the upper surface of the outer terminal so that the thickness of the inner terminal is thinner than that of the outer terminal, this feature is also not taught or suggested by any of the references. Yagi in particular does not teach or suggest this feature. At most, Yagi teaches that the inner terminal is not located closer to the semiconductor device than the outer terminal. Instead, both the inner and outer terminals of Yagi are located at the same position relative to the semiconductor device. See, for example, Yagi at Fig. 7. Still further, Yagi does not teach or suggest that the inner terminal has a half-etched upper surface lower than the upper surface of the outer terminal so that the thickness of the inner terminal is thinner than that of the outer terminal.

In the absence of any such teachings, one of ordinary skill in the art would not have been motivated to take the individual teachings of Fee, Chun-Jen, and Yagi, and to combine and further modify those teachings so as to practice the claimed invention. No such motivation is contained anywhere in any of the three references. Instead, each of Fee, Chun-Jen, and Yagi teach semiconductor devices that have thicknesses that are thicker than that of the inner terminals, and the thicknesses of the inner terminals are the same toward the inside.

In any event, any combination of the references would still not have all of the features of the claimed invention, as described above.

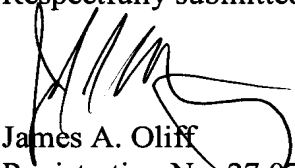
As Fee, Chun-Jen, and Yagi fail to teach or suggest at least these features of the claimed invention, the references alone or in combination would not have rendered obvious the claimed invention. Claim 1, and its dependent claims, would thus not have been rendered obvious by Fee, Chun-Jen, and Yagi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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